



Forest Management in Northern Thailand: A Study from the Early 18th Century Palm-leaf Texts*

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Abstract

This paper deals with the management of forests in northern Thailand in the early eighteenth century, using insights gleaned from ancient palm-leaf texts from the Lan Na kingdom. The palm-leaf texts consist of traditional laws, royal dictates, local chronicles and religious texts. These sources will be examined to help the reader understand the ways the state and the people made use of the forest resources in the past. According to the palm-leaf texts, forests were classified into six types: 1) forest as sources of food, usually located near the village. 2) forest as places for the guardian spirits to whom the villagers offer an annual sacrifice. 3) forest as a source of rivers. 4) state forest from which the king and the nobility had the right to collect resources. 5) wild tea forest located on the high mountains which belongs to the villagers who reside at the foot of the hill. 6) forest as a site of cemeteries located on the outskirts of the village or town.

Key words: Palm-leaf texts, Lan Na, King's reserved trees, Forest classification

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Introduction

The world is rapidly losing its forests and perhaps in no region of the world has deforestation been so rapid as in Southeast Asia. While vast areas are still forested in Myanmar, Laos and Thailand, and many people still derive their livelihoods from forest resources, the extent and rate of forest loss in recent decades have sparked great concern. Thus regulation of forests and their resources is a vital and controversial political subject in the region.

This paper deals with forest management, with a focus on northern Thailand's distant past. Ancient palm-leaf manuscripts from the northern Thai realm of Lan Na shed light on the ways that forest resources were managed in the past, with lessons quite relevant for the modern debate. The independent principalities of the "Land of a Million Rice Fields," or Lan Na, occupied a mountainous area rich in forests and rice-producing valleys. Complex arrangements were struck over the management of these resources, both between rulers and subjects and amongst the communities. By the time Lan Na became a vassal state of Siam during the reign of King Rama V more than 100 years ago, much of the high-value tree species were controlled by European concessionaires, under contract with local princes, and the process of deforestation had begun. Prior to this period of increasingly intense exploitation, however, we can find distinct differences between the ways locals utilized natural resources both then and now.

From the palm-leaf manuscripts, including customary laws, local chronicles and religious texts, it appears that the importance of the sustainable use of natural resources was recognized. From these sources it can be learned who exercised control over forest resources, how control was maintained and why certain species or forest areas were regulated. Of particular interest to those following the struggle over control of the uplands in northern Thailand today is the fact, revealed in the palm-leaf manuscripts, that customary laws regulating forest use in the past were not limited to upper watershed areas, but also prescribed clearing trees along lowland riverbanks. Today's proponents of strict limits on land use in upper tributary watersheds, including the forced relocation of ethnic minority communities that have in some cases resided there for centuries, ignore lowland or riparian habitats and their role in watershed conservation. On the other hand, opponents of the Thai state's rapid enclosure of highland areas cite the importance of considering the watershed in its entirety, not merely the upper



reaches. This paper illustrates that such holistic reasoning was well known to Thais many centuries ago.

Today in Thailand, problems and conflicts over the use of forest resources are commonplace. The government has a policy to relocate people out of forest areas, while villagers argue that they have cooperatively managed forest resources for many years. They are pushing for the passage of a Community Forestry Act, a struggle of more than ten years, that would allow both Thai and villagers form hilltribe minorities to remain in forest areas; protect the forests and use the resources as they had in the past. Many villages in the uplands of northern Thailand have begun cooperating in areas like fire control and preventing encroachment by outside logging interests. There have been many protests against successive Thai governments in recent years, but the problems have not stopped. This study will help in understanding and affirming past traditions and practices of forest-using communities, a subject of which the Thai government has shown it has little understanding.

The Palm-leaf Texts: The Ancient Documents

The palm-leaf texts, most of which were inscribed by monks or former monks more than 400 years ago, were commissioned by temple abbots as texts for teaching. They are written in Lan Na or Tai Yuan scripts which were derived from the old Mon scripts. The distribution of Tai Yuan scripts and the palm-leaf texts coincide with the distribution of the “Yuan Sect” (Suandok and Padaeng Sect) of Theravada Buddhism, reaching as far as the Shan State in Myanmar; Sipsongpanna in the Southern part of Yunnan; and Laos, including the northeastern part of Thailand (Hans Penth, 1949, p. 238-240, 261-265).

Education in Lan Na society took place in the temples which functioned as community boys’ schools. Villagers sent their boys from the ages of about 7-10 years old to stay with the abbots in the temples. They started to learn the Tai Yuan scripts at an elementary level. Later they were ordained to be novices or monks, and their studies were continued to a higher level, including special subjects such as medicinal herbs, astrology, law, etc. When they left the monkhood, they were accepted by the villagers as learned people. Ex-novices were distinguished by the pre-fix “*noi/mai*” before their names, and ex-monk by “*khanan/nan*”.

Besides the palm-leaf texts were written by the abbots or monks, the villagers also made merit by offering the palm-leaf texts to monks after the Buddhist Lent



(October-November) called “*tang dham*” every year. (the word “*tang*” means to set or to collect and “*dham*” refers to the Buddhist texts). Villagers hired ex-monks to inscribe the palm-leaf texts and they made offerings to the monks requesting them to read and to dedicate them to their parents’ or relatives’ spirits. Because of such practices, there were a large number of palm-leaf texts kept in the temples’ libraries. Some texts were important or popular such as The King Mangrai Law of which there are more than nine versions in Chiang Mai. Scholars have used these old documents for 30 years. During 1977-1982 The Toyota Foundation granted a project for surveying and duplicating the palm-leaf texts into microfilms including grants for translation from Tai Yuan script into the modern Thai language.

One of the important collections of the palm-leaf texts were the historical texts called the “*tamnan/chronicles*”. These texts mentioned different stories such as the history of relics, temples, Buddha images, Buddha’s foot prints, villages and towns. They are different from the Siamese historical texts known as “*pongsawadan*”. Most of the “*pongsawadans*” were written by royal scribes under the patronage of the King of Siam. They provided support for the king and his royal family who needed to declare their merits and legitimacy. “*tamnan*”, on the other hand, were mostly written by the abbots or learned monks and villagers (ex-monks). The texts were written for different purposes. The abbots contributed texts for teaching and the villagers wanted to make merit. At the end of the texts some monks put colophonies by giving their names, names of their temples, dates including the original texts which they used. Today, the palm-leaf texts are still kept in temple libraries but they are no longer the texts of the past.

Forest classification

The palm-leaf texts, most of which were inscribed by monks or former monks more than 400 years ago, were commissioned by temple abbots as texts for teaching in Lan Na temples. According to these sources, forests were classified into six types:

- * sources of food
- * places for ritual ceremonies
- * sources of rivers
- * state reserved land
- * wild tea plantations
- * cemeteries



Pa Phae (ป่าแพะ) : The forest as a source of food

This type of forest was usually located near a village and it was an important source of food and other natural products for local villagers, called *Pa Phae*. The word “*pa*” means a forest and “*phae*” means a grove. According to the Law of Wat Kasa texts, villagers were granted limited access to this type of forest in the morning or afternoon for the collection of non-timber forest products such as bamboo shoots, ferns, mushrooms, bananas, herbs, insects and wild animals. An individual’s access to these local groves was limited to a single hour per day (Wat Kasa Law, p. 55).

Today, the importance of forests to local communities is captured in many village names. Villages located near or within forests have the term *phae* included in their names, for example Ban Phae Kwang (San Patong District, Chiang Mai) and Ban Phae Nong Ha (Li District, Lamphun).

Pa Dong Kam (ป่าดงกม) : The forest as a site of ritual ceremony

Prior to accepting Buddhism, Lan Na people practised spirit worship. Even today, people still practise animist rituals. In every town and village there are forests designated for the guardian spirits of the locality. Offerings are made here to propitiate the local spirits. Once a year, usually in May or June, rituals are held in the forest on the outskirts of a town or village, where offerings are made to the spirits known as *pa dong kam or dong sua ban*. The word “*dong*” means forest and “*kam*” means ritual and “*sua*” means guardian spirit and “*ban*” means village. Chiang Mai city still has such a ritual forest. It is an area of dense forest of about one or two square kilometres located at the foot of Suthep Hill near Chiang Mai University. Historically, the king and people of Chiang Mai paid respect here to the guardian spirits of Chiang Mai, who were called *Pu Sae and Ya Sae*. This forest is known as the *dong* (forest) of *Pu Sae Ya Sae*. In the past, and continuing to the present, the people of Chiang Mai organized in May or June a ritual ceremony to these forests spirits. In the early morning a black buffalo is slaughtered and cooked. Eight monks are called upon to chant. A painting of the Lord Buddha flag or “*phra bot*” is brought from a nearby temple and hung from the branch of a forest tree. During the ritual, local people ask the spirits to provide sufficient rain for the rice paddies and to protect the rice from pests such as insects or birds. Such a ritual forest is kept as a holy place and cutting wood or other disturbances is forbidden. Today, this ritual forest near Chiang Mai remains a dense forest.

**Pa Khun Huay (ป่าขุนห้วย): Forests as a source of rivers**

The Ping River is the principal river of northern Thailand and forms the valley to which Chiang Mai belongs. Its many sources arise in the forested mountains of the northern borderlands called *Pa Khun Huay*. The word “*khun*” means source of a river and “*huay*” mean a creek or brook. In the past, the people who lived in these hills and those living along the riverbanks had agreements with one another to protect the forest, including woodcutting rules. This was also true in the neighbouring Nan kingdom. According to the records of the laws of the king of Nan (the Law of Nan City, p. 7), “*If someone infringes the law, the village head or a state authority will fine him 330 ngern¹ (pieces of silver) and beat him 30 times.*” Today, villagers still recognize the importance of protecting forests as sources of rivers. Every year, villagers from about 20 villages along the Li River in Lamphun Province gather to observe a ritual paying respect to the source of the Li River and pledging to protect the forest and to refrain from tree cutting. (Author’s interview with Mr. Kaew Duintaa at Lee village in 2000.) The Chom Thong villagers in Thoeng district, Chiang Rai Province also play respected to the spirit of the source of the Ing river every year in June.(The Thoeng, District Report)

Pa Yang (ป่ายาง): State forests

According to the Mangraisart, or the Law of King Mangrai, the founder of Chiang Mai in 1296, the king held proprietary claims on all land and natural resources, including forests. These were called “*Pa Yang*” of the state (“*yang*” also means forest), and many such areas were awarded to nobility or high- ranking officials. These members of the ruling class had the right to collect resources or to levy taxes on resources such as teak, black varnish, wild honey, wild animals and edible plants. Upon the individual grantee’s death, however, rights to the forest returned to the state (Mangraisart Notton p. 67 and Mangraisart Wat Chaisathan, p. 66). Connected with this tradition is the fact that the king of Chiang Mai and the nobility of northern Thai towns during the course of 200 years granted concessions to foreign timber interests, especially British firms. These concessions contributed to the decline of forest cover in the north since that time.

¹ It is still unclear from the sources the relative value of *ngern*. There was the only one text, *Sommuttiraj Law*, that mentioned 1 *ngern* was equal to 1,000 cowry shells (Aroonrut Wichienkeeo, 1981, p. 14).



The Lan Na people classified forests into two broad types: hardwoods and softwoods. The former included marketable woods for building or crafts and resin-producing trees, which were important for the lacquerware industry and for producing the gold leaf which was used for decorating buildings, as well as other types. These trees were usually reserved by the king for the exclusive use of the ruling class (Singhanawat Chronicle, p. 161 and Carl Bock 2000). The softwoods included all types of bamboo and various reeds. These were used by local villagers for home construction and mat weaving, among many other uses.

Pa Miang (ป่าหมี้ยง) : Wild tea forests

In some areas of high mountains in the north, the forests are home to an abundance of wild tea plants. These forests are known locally as *pa miang* (*miang* is a kind of tea). Traditionally, Lan Na people consumed these tea leaves for refreshment. This still persists somewhat today. In the past, this resource was recognized as belonging to the villagers who resided at the base of the hills where the tea plants grew. They were free to climb the hills and pick the tea leaves four times a year (James McCarthy 1990). They would then boil and ferment the leaves, which were chewed by villagers. Such forests are scattered throughout the north. Over time, the state gave title deeds for some wild tea forests to certain people and they became private property. Though the number of consumers of wild tea is decreasing, these forests are still in existence today and a source of income for many people. Today the wild tea forest covers a large mountainous area from Chiang Mai to Wiang Pa Pao District through Chiang Rai and Phayao provinces.

Pa Riaw/Pa Cha (ป่าไร่/ป่าช้า) : Cemetery forests

Every village or town has a cemetery on its outskirts. The cemetery often serves as a sign of the village boundary. According to the Chiang Mai Chronicle, when King Mangrai founded Chiang Mai he designated a forest beyond the southwest corner of the city wall as the city cemetery. According to the astrologers, this direction was an inauspicious area, so it would serve well as the site of a cemetery (Chiang Mai Chronicle 1998, p.43 and Aroonrut Wichienkeo, 1999.) As the site of cremation, villagers believe that this forest possesses a spirit and thus they will not disturb it.



Forest and Tree Conservation

According to traditional law in Lan Na, the king and the ruling class had the privilege of using natural resources as a source of income. There were two principal kinds of forests afforded state protection: productive forests and those reserved for the observance of ritual ceremonies involving forest spirits. According to the palm-leaf texts, the Lan Na kings reserved five kinds of trees. There were 1) teak trees, 2) trees for making arrows, 3) trees with medicinal properties, 4) black varnish trees, and 5) wild tea trees.

The king forbade the cutting of several kinds of teak. One type of teak was reserved in order to conserve this valuable species for the construction of boats, the principal means of transportation in this land of rivers. Someone violating the law was fined 72 *ngern* for each teak log of this type (Mangraisart Wat Chaisathan, p. 71). The records also single out a high-value teak type known as *jai* teak, which likely had a beautiful grain and colour and is likely the type of tree known today as golden teak. The above two kinds of teak can be contrasted with the low-quality teak with poor colour, known popularly as “*buffalo dung teak*”. Those guilty of illegally harvesting *jai* teak were fined 22 *ngern*.

The wood of the *mai ya* tree (“*mai*” means tree, “*ya*” is a name of tree) was important for making arrows for state troops. The fine for harvesting this type of tree was 110 *ngern* per tree. The saplings of both species of trees were also protected. While medication was very important for every community, the king forbade people to cut or tap certain kinds of trees with medicinal value. Violators were charged 33 *ngern* for cutting and 22 *ngern* for tapping the trees (Mangraisart Notton, p. 58 and Mangraisart Wat Chaisathan, p. 71).

Forest resources were an important source of state income of the Lan Na kingdom and restrictions were tight. For example, the Mangraisart Law cites the fact that the king and his officials had the sole right to tap the valuable black varnish of a certain type of tree. Violators were fined 110 *ngern*. Those who cut the saplings of such trees were charged 3,300 cowry shells. Tea trees were another important resource. The fine for cutting a mature tree was 50 *ngern* and 22 *ngern* for a sapling (Mangraisart Notton, p. 58). Wild animals were also important forest resources and sources of royal income. The Law of Nan explicitly forbade the people of Nan from taking elephant tusks, rhinoceros horn or wild bee hives, including bats (the Law of Nan, p. 16-17). All these items were the sole property of the king of Nan 200 years ago.



The use of forest resources for ritual purposes was also an important purpose of reserving forests for state use only. For instance, it is recorded in the Chiang Mai Chronicle that during the Mangrai Dynasty (1296-1558), the kings of Chiang Mai ordered their craftsmen to cut teak from the forests to build religious buildings in Buddhist temples, such as chapels, ordination halls and monks residences (The Chiang Mai Chronicle, p. 38. and Jinakarnmalipakorn, p. 133, 159).

Local control of resources

It is understood that in the past, forests close to villages were available for local use and governed by customary rules. These traditions were alive at least 70 years ago and were responsible for the sustainable use of forests for all members of the community. For example, there were customary agreements that allowed newly married couples or adult villagers without a house, to cut wood to build themselves a home. This customary village right was limited to one house per family and was overseen by the village head. It was also customary for villagers to cooperate together in home building. This meant that hiring labour for such a purpose was unknown, with exchange labour being the norm.

Forests in Thailand Today

The recorded history of northern Thailand is more than 700 years old. The ancient Lan Na Kingdom, with its centre in Chiang Mai, was a land of mountains and forests. The monsoon climate provided its inhabitants with a bounty of forest products, ranging from edible plants and medicinal herbs to construction material and sources of protein from insects to wild animals. For those far from town, the forests served as an important supplement to local farm production.

Deforestation is universally recognized as a problem in Thailand. In 1938 about 72 percent of the country was forested, and as recently as 1960 more than half of the kingdom was cloaked in forest. A generation later, when the government banned logging in 1989 and cancelled logging concessions in natural forests, half of the remaining tree cover was gone; less than 20 percent of the country remained forested.² The logging ban did not end the hemorrhage of its natural reserves, either, with statistics

² Estimates of forest cover vary, from differing interpretations of RFD estimates of 28 percent in 1989 (Hurst, 1990: 208) to 15 percent in 1990 (Lohmann, 1993).



from the UN Food and Agriculture Administration (FAO) revealing that from 1990 to 1995 Thailand lost 12 percent of its remaining forest cover. This was most rapid in the North, primarily because the rest of the country had already been denuded.

Prior to the 1960s, Thai forest policy was concerned primarily with managing timber extraction and governed by the Forest Act of 1941. More than half the country was forested and the state was concerned that part of the benefits of this resource flowed into the government coffers. To this end, half of the country's forests were awarded to timber companies as concessions. It was not until the early 1960s and recognition that the forests were rapidly being destroyed that the government produced several key pieces of legislation designating reserved forests, national parks and wildlife sanctuaries.

Thailand did not have its first comprehensive National Forest Policy until 1985. This policy aimed to maintain a target of 40 percent forest cover. Of this 40 percent, only 15 percent was to be kept as conservation forest area. The conservation forest areas included first class watersheds, national parks, and wildlife sanctuaries. The other 25 percent was classified as economic forest area. This ratio was reversed in 1989 when catastrophic landslides in the South and the resulting public outcry compelled the government to pass a nation-wide logging ban and revoke forest concessions in state reserved forests. (This ban is still in effect.)

By that time, the goals were coming into conflict with reality. By 1986, 45 percent of the total area of the country had been declared national reserved forest, theoretically providing enough land, with some to spare, to meet the national forest policy goal of 40 percent of the nation under forests. However, Royal Forest Department (RFD) statistics, which include orchards, as well as pulp and rubber plantations within the category of "forests," showed only 26 percent of the country under forest cover. A narrower definition of forests, eliminating single-stand tree farms, would bring the number down to below 20 percent, meaning less than half of the national goal had been met (Hirsch 1990).

In summary, the last two decades, most dramatically since 1990, have seen a dramatic expansion of the strict regulation of land previously only nominally enclosed by the state. These areas under RFD jurisdiction are national parks, wildlife sanctuaries and watershed protection zones. For example, of the 81 national parks established by 1997, only 16 were set up before 1980. A quarter of the total of the national parks were



established between 1990 and 1995 (Mingsarn and Pornpen, 2000). As far as the watershed areas are concerned, while only 25 percent of the country is placed in class one or two zones with severe restrictions on land use, the proportion doubles in the northern region and rises to 90 percent in upper tributary watersheds like Mae Chaem in Chiang Mai Province. Ethnic minorities largely populate such upper tributary watersheds. The population of Mae Chaem, for example, is 64 percent upland minority, mainly Karen and Hmong. Technically, most of the 68,000 people in this watershed are illegal squatters, regardless of the fact that the Karen population has lived there for generations.

The situation in the North is more extreme than the rest of the country, essentially because this region was historically the most mountainous and forested. The northern region has experienced sharp declines in forest cover over the last several decades. In 1961, 69 percent of northern Thailand was covered by forest, or some 73 million *rai* of forest cover, and by 1995 these figures had dropped to 44 percent and 46 million *rai*, respectively (Mingsarn, 2000). However, given that the North accounts for the major share of the total forest cover in Thailand, it often sustains the greatest total forest losses per period. Between 1973 and 1991, the north lost 36,000 square kilometres of forest, though the Northeast lost far more as a percentage of area, or 60 percent.

Today, 66 percent of the land in the North is considered national reserve forest, while about 44 percent of the area is covered with trees, based on the RFD definition of forests. In comparison with the rest of the country, the percentage of the North nominally reserved for forests is double that of the Northeast (33 percent) and the central region (34), and substantially more than the South (40 percent). The actual tree cover is also far greater proportionally in the North. It is nearly double that of the central region (23 percent) and much higher than the Northeast (13 percent) and the South (17 percent). In fact, the three most heavily forested provinces in Thailand are located in the upper North: Tak, Chiang Mai, and Mae Hong Son, each with more than 70 percent of the area under forest. Other provinces, like Lamphun and Nan (48 percent and 42 percent), have considerably less forest cover. (Mingsarn and Rutherford, 2002).

Conclusion

It is hoped that this paper will help to shed light on forest resource management in the past and stimulate interest in a more detailed research on this topic of both historical and contemporary importance. It is clear that in the case of the use of natural resources such as wood or high-value resins, some forests were classified as economic



forests and their use was reserved for the rulers of the country alone. Although we still do not know enough about the extent of the laws discussed above or how widely they were followed in the control of forests, the practice of reserving forest resources reflects on the local knowledge and management of natural resources by communities in the past.

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